DLL2020

Software Configuration Manual

DATALOGIC

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SOFTWARE CONFIGURATION MANUAL

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HOW TO USE THIS MANUAL

The DLL2020 scanners can be setup with the Default parameters through the User's Manual or this Software Configuration Manual. Refer to Appendix C for initial configuration in order to set the default values and to select the interface for your application. These parameters can be changed to meet different application needs.

In this manual, the configuration parameters are divided into logical groups making it easy to find the desired function based on its reference group.

In order to change the scanner settings please follow the sequence below:

1) Open the folded page in Appendix C "Editing Commands" so that the Enter/Exit and Save Programming Mode code remains visible.

2) Read the Enter/Exit and Save Programming Mode code to Enter programming mode; the scanner responds with a double tone beep (Low High)

3) Change desired scanner settings by scanning the codes in one or more sections following the procedures given; the scanner responds with a high tone beep when a valid programming barcode is read or a low tone beep if an unexpected code is read.

4) Read the Enter/Exit and Save Programming Mode code to Exit and Save the new configuration.

Example:
To change the baudrate to 4800, the following codes must be scanned successively:

1. "Enter Programming Mode"
2. "Baudrate 4800"
3. "Exit and Save Programming Mode"

At any time (in Programming Mode) you can scan the "Exit Programming Mode without Saving" code to cancel the current configuration or the "Restore Factory Default" code to return to the default settings. Both of these codes Exit programming mode.

To correctly configure the reader using the barcodes provided in this manual, it is important to aim it onto the desired code without reading the adjacent codes. Since each page contains three to four barcodes, and the raster scanning pattern is large, you can use several methods to avoid selecting an adjacent code:

- Use the Freeze Frame Scanning Mode (see page 16)
- Use the Single Line Scanning Mode (for DLL2021 models only - see page 16)
- Cover the adjacent codes with your hand or piece of paper so they cannot be read

In general, it is advisable to move the reader close to the desired barcode by aligning the laser pattern on the lateral margin a few centimeters away before moving it over the desired code.

1 INTRODUCTION

This manual provides a detailed description of the software configuration options available on the DLL2020 scanner. This manual contains three chapters and three appendices.

The first chapter outlines the manual structure.

The second chapter describes all the configuration parameters that can be set by reading the barcode labels in each relative section.

The third chapter describes the same programming parameters that can be set in RS232 by sending the configuration strings to the scanner.

Appendix A provides the list of bar code labels to be read in order to obtain the desired ASCII characters for Headers, Terminators and Code ID characters.

Appendix B, for Keyboard Wedge interface users, shows the complete list of the extended Header and Terminator special keys.

Appendix C includes the barcode labels to be read any time it is necessary to Enter/Exit Programming Mode or to return to default settings.

2 CONFIGURATION PARAMETERS

The DLL2020 scanners can be configured according to the parameters listed in the following groups:

- **INTERFACE SELECTION**
- **RS232**
- **KEYBOARD WEDGE**
- **OPERATING PARAMETERS**
- **CODE SELECTION**
- **CODE LENGTH**
- **DATA FORMATTING**

INTERFACE SELECTION

To select the scanner interface scan the following codes:

1. Read the "Enter/Exit and Save Programming Mode" code in Appendix C;
2. Scan either the "RS232 Default" code or the "Keyboard Wedge Default" code.

RS232 is the factory default interface.

◆ RS232 default

8 712345 100100

Programming Mode is exited after scanning this code.

Keyboard Wedge default

8 712345 100131

Programming Mode is exited after scanning this code.

RS232

RS232 PRESETS

Each of the following barcode selections enable a complete preset parameter configuration for correct use with the respective POS Terminal.

However, specific parameters can always be modified by selecting them from their respective group in this manual.

The scanner must first be set with the RS232 interface selection. Read the "RS232 default" scanner interface code.

Wincor Nixdorf Beetle Mode A1

Wincor Nixdorf Beetle Mode A2

Wincor Nixdorf Beetle Mode B1

Wincor Nixdorf Beetle Mode B2

Wincor Nixdorf Beetle Mode B3

ICL Mode

Fortronic (UK) Mode

BAUDRATE

300

1200

2400

4800

◆ 9600

8 712345 110048

19200

8 712345 110055

PARITY

◆ None

8 712345 110109

Even

8 712345 110116

Odd

8 712345 110123

DATABITS

7 databits

8 712345 110307

◆ 8 databits

8 712345 110314

STOPBITS

1 Stop Bit

8 712345 110208

◆ 2 Stop Bits

RTS/CTS

On

◆ Off

KEYBOARD WEDGE

PC/TERMINAL TYPE

PC XT

◆ PC AT

PC PS2

IBM 347x terminals

IBM 3179 terminal

8 712345 400040

KEYBOARD NATIONALITY

◆ International Keyboard (ALT Method)

8 712345 400200

US

8 712345 400217

UK

8 712345 400224

French

German

Spanish

CAPS LOCK

◆ Off

On

8 712345 400514

INTER CHARACTER DELAY

0 msec

8 712345 130404

1 msec

8 712345 130411

◆ 2 msec

8 712345 130428

5 msec

10 msec

20 msec

50 msec

100 msec

200 msec

500 msec

OPERATING PARAMETERS

SCANNING MODE

Two different scanning mode options are available to help prevent adjacent barcode reading in applications where more than one barcode is present in the DLL2020 laser pattern (i.e. this manual). These options are:

- Freeze Frame Mode
- Single Line Mode (DLL2021 only).

- the Freeze Frame mode is a special trigger mode allowing to aim the laser pattern onto the specific code before reading.
To use this mode:

1. Press and hold the scanner trigger. The laser pattern starts blinking but the scanner does not read the code;
2. Move the scanner towards the barcode (zoom-in);
3. Release the trigger to read the barcode.

- the Single Line mode is a special trigger mode which temporarily switches the full scan pattern to a single scan line which can then be aimed onto the specific code before reading.
To use this mode:

1. Press and hold the DLL2021 trigger to switch from the full scan pattern to a single scan line;
2. Aim the single scan line onto the barcode to be scanned making sure the line completely crosses the barcode;
3. Release the trigger to read the barcode.

Both these scanning modes are in addition to the normal omni-directional scanning pattern which is always available for barcode reading.

CONFIGURATION PROCEDURE

1) Read the "Enter/Exit and Save Programming Mode" code in Appendix C;

2) Read the Scanning Mode code;

3) Read either the Freeze Frame Mode code or the Single Line Mode code;

4) Read the "Enter/Exit and Save Programming Mode" code again.

Scanning mode

Freeze Frame Mode

Freeze Frame ON

Single Line Mode (DLL2021 model only)

Single Line ON

BEEPER ON / OFF

The DLL2020 beeper can be enabled or disabled using this code. When DLL2020's beeper is off, it is possible to check correct reading by monitoring the green good read LED on top of the scanner. The default setting is "Beeper ON".

To enable or disable the beeper:

1) Read the "Enter/Exit and Save Programming Mode" Code in Appendix C;

2) Scan the "Beeper ON/OFF" code to turn the beeper ON or OFF;

3) Read "Enter/Exit and Save Programming Mode" code again.

Beeper ON/OFF

BEEPER TONE

DLL2020 provides four different beeper tones. To change from one tone to another follow the procedure:

1) Read the "Enter/Exit and Save Programming Mode" code in Appendix C;

2) Repeatedly scan the "Beeper Tone" code until the desired tone is heard;

3) Read "Enter/Exit and Save Programming Mode" code again.

Beeper Tone

LED/BEEPER MANAGEMENT

After decoding

After transmission

SLEEP MODE

Off

After 10 min

◆ After 30 min

After 60 min

SAME CODE DELAY

This function enables a series of programmable timeouts to prevent same code consecutive reading. The scanner must be completely removed from the code for at least the time specified.

50 msec

100 msec

200 msec

300 msec

400 msec

500 msec

◆ 600 msec

8 712345 130169

700 msec

8 712345 130176

800 msec

8 712345 130183

CODE SAMPLE PERIOD

50 msec

100 msec

150 msec

200 msec

BUFFERSIZE OF SCANNER

Buffersize of scanner > 1

Buffersize of scanner = 1

CODE SELECTION

EAN/UPC

◆ All EAN/UPC (ADD ON not sent)

EAN/UPC with and without ADD ON

All EAN/UPC Off

EAN/UPC/ADD ON only

NOTE

When scanning the following code, barcodes starting with 379, 434, 439, 529 or 977 will only be accepted including ADD ON. If no ADD ON has been found, the barcode will not be accepted. Barcodes starting with different characters are accepted with or without ADD ON.

EAN/UPC/ADD ON only for 379/434/439/529/977,
optional for others

EAN/UPC/ADD ON only for 379/434/439/529/977,
not sent for others

ADD ON 5 only (ADD ONs must be selected)

ADD ON 2 and 5 only (ADD ONs must be selected)

Price check digit verify Off (EAN 13)

Price check digit verify, 4 digits price field (EAN 13/UPC A)

Price check digit verify, 5 digits price field (EAN 13/UPC A)

ADD ON with separator

ADD ON without separator

EAN/UPC Conversions

UPC A without conversion

UPC A to EAN 13 conversion

EAN 8 to UPC A conversion

NSC to UPC A conversion

NSC without conversion

UPC E to UPC A conversion

No UPC E conversion

UPC E format with leading zero

UPC E format without leading zero

Check Digit Options

Transmit UPC A Check digit: OFF

Transmit UPC A Check Digit: ON

Transmit UPC E Check Digit: ON

Transmit UPC E Check Digit: OFF

Transmit EAN 13 Check digit: OFF

Transmit EAN 13 Check digit: ON

Transmit EAN 8 Check digit: OFF

Transmit EAN 8 Check digit: ON

CODE 128/EAN 128

On

Off

8 712345 143114

Code 128 Options

Code 128/EAN 128 send FNC1 as]C1

8 712345 143121

Code 128/EAN 128 do not send FNC1 as]C1

8 712345 143138

CODE 39

On

8 712345 143015

Full ASCII On

8 712345 143046

Code 32 On

8 712345 143039

All Code 39 family Off

8 712345 143053

Code 39 Check Digit Options

Transmit CHECK character CODE39:OFF

8 712345 146009

Transmit CHECK character CODE39:ON

Verify CHECK character CODE39: OFF

Verify CHECK character CODE39: ON

CODABAR

On

Off

8 712345 143060

CODABAR Start/Stop and Check Digit Options

Transmit start/stop characters in upper case

8 712345 145736

Transmit start/stop characters in lower case

8 712345 145743

No start/stop character transmission

8 712345 145729

No check digit transmission

Transmit check digit

Verify CHECK character CODABAR: OFF

Verify CHECK character CODABAR: ON

INTERLEAVED 2/5

On

Off

Interleaved 2/5 Check Digit Options

Transmit Check character INT 2/5: OFF

Transmit CHECK character INT 2/5: ON

Verify CHECK character INT 2/5: OFF

Verify CHECK character INT 2/5: ON

CODE LENGTH

SET MINIMUM LENGTH

To define the desired minimum code length proceed as follows:

1) If not working in Programming Mode, scan the "Enter/Exit and Save Programming Mode" code in Appendix C;

2) Read the "Set Minimum Length" code of the desired barcode type;

3) Define the minimum length value by reading the corresponding code in the "Length" section

Code 128, minimum length

Code 39, minimum length

Codabar, minimum length

Interleaved 2/5, minimum length

SET FIXED LENGTH

You can set up to 2 fixed length codes for the following code types. To define the desired code length proceed as follows:

1) If not working in Programming Mode, scan the "Enter/Exit and Save Programming Mode" code in Appendix C;

2) Read the "Set Fixed Length" code of the desired barcode type;

3) Define the fixed length value by reading the corresponding code in the "Length" section.

Code 128, fixed length 1

Code 128, fixed length 2

Code 39, fixed length 1

Code 39, fixed length 2

Codabar, fixed length 1

Codabar, fixed length 2

Interleaved 2/5, fixed length 1

Interleaved 2/5, fixed length 2

LENGTH

Length = 1

Length = 2

Length = 3

Length = 4

Length = 5

Length = 6

Length = 7

Length = 8

Length = 9

Length = 10

Length = 11

Length = 12

Length = 13

Length = 14

Length = 15

Length = 16

Length = 17

Length = 18

Length = 19

Length = 20

Length = 22

Length = 24

Length = 26

Length = 28

Length = 30

Length = 32

DATA FORMATTING

TRANSMIT PRINTABLE CHARACTERS

Transmit printable characters only

Transmit printable and non-printable characters

HEADERS

The scanner can be programmed to output barcode data according to the following format:

[HEADER STRING] [CODE ID] [BARCODE DATA] [TERMINATOR STRING]

The header string is limited to a maximum length of 3 characters.

To program the header string follow the given procedure:

1) If not working in Programming Mode, scan the "Enter/Exit and Save Programming Mode" code;

2) Scan the "Enter Header Programming" code;

3) Select up to 3 header characters; such characters are available in Appendix A (ASCII characters) or for Wedge Interface Users in Appendix B (Extended Wedge Header/Terminator Keys).

4) Scan the "Exit and Save Headers" code;

5) Scan the "Enter/Exit and Save Programming Mode" code again OR configure other parameters

To disable the headers, follow the above procedure omitting Step 3.

Enter Header Programming

Exit and Save Headers

TERMINATORS

The scanner can be programmed to output barcode data according to the following format:

[HEADER STRING] [CODE ID] [BARCODE DATA] [TERMINATOR STRING]

The terminator string is limited to a maximum length of 3 characters.

To program the terminator string follow the given procedure:

1) If not working in Programming Mode, scan the "Enter/Exit and Save Programming Mode" code;

2) Scan the "Enter Terminator Programming" code;

3) Select up to 3 header characters; such characters are available in Appendix A (ASCII characters) or for Wedge Interface Users in Appendix B (Extended Wedge Header/Terminator Keys).

4) Scan the "Exit and Save Terminators " code;

5) Scan the "Enter/Exit and Save Programming Mode" code again OR configure other parameters

To disable the terminators, follow the above procedure omitting Step 3.

Enter Terminator Programming

8 712345 144210

Exit and Save Terminators

8 712345 131005

PRE-DEFINED TERMINATORS

To program the terminator string follow the given procedure:

1) If not working in Programming Mode, scan the "Enter/Exit and Save Programming Mode" code;

2) Choose the desired pre-defined terminator from the list below

3) Scan the "Enter/Exit and Save Programming Mode" code OR configure other parameters.

Terminator = CR

Terminator = LF

Terminator = CR + LF

CODE IDENTIFIERS

A code identifier is a data string, giving information to the host system concerning the barcode type that has been read.

After scanning the "Enable Default Code Identifiers" code, the scanner is programmed to transmit data according to the following format:

Code Type	Code Identifier	Barcode Data
EAN 13	F	D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13
EAN 8	FF	D1 D2 D3 D4 D5 D6 D7 D8
UPC A	A	D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12
UPC E	E	0 D1 D2 D3 D4 D5 D6
Code 128	#	D1 Dx
EAN 128	P	]C1 D1 Dx
Code 39	*	D1 Dx
Code 32	*	D1 Dx
Codabar	%	D1 Dx
Interleaved 2/5	i	D1 Dx

*Enable Default Code Identifiers

Disable Code Identifiers

* This command cancels Custom Code Identifiers.

Enable Custom Code Identifiers

SET CUSTOM CODE IDENTIFIER

To set a custom code identifier:

1) If not working in Programming Mode, scan the "Enter/Exit and Save Programming Mode" code;

2) Scan the desired "Set Code ID" code;

3) Select up to 3 Code ID characters; such characters are available in Appendix A (ASCII characters).

4) Scan the "Exit and Save Custom Code ID" code at the end of this group;

5) Scan the " Enter /Exit and Save Programming Mode" code OR configure other parameters.

Set EAN 13 Code ID

Set EAN 8 Code ID

Set UPC A Code ID

Set UPC E Code ID

Set EAN128 Code ID

Set Code 128 Code ID

Set Code 39 Code ID

Set Code 32 Code ID

Set Codabar Code ID

Set Interleaved 2/5 Code ID

Exit and Save Custom Code Identifier

3 LOCAL MODE PROGRAMMING

3.1 ENTER LOCAL MODE

Local Mode Programming allows controlling and configuring the DLL2020 scanners using the RS232 interface. To use this mode:

1. Verify that the serial parameters between the DLL2020 and the PC are aligned. The default parameters on the DLL2020 are: 9600,8,N,2.

2. Enter Local Mode by sending the following character sequence with at least a one-second pause between each character:

Ctrl-E + Ctrl-O + '!'

When the reader is in LOCAL MODE the '>' character appears on the PC screen. In this mode the following commands can be sent to the scanner:

KEYBOARD COMMAND	DESCRIPTION
progmode	Scanner enters programming mode, scanner responds with "#" prompt
Tsleep	Show the sleep timeout value
mm 0e04 50	Disable EAN/UPC overflow; scanner responds : 0E04 54 --> 50

3.2 PROGRAMMING MODE

To enter Programming Mode send the "progmode" command from Local Mode (see par 3.1 above).

When the reader is in PROGRAMMING MODE the '#' character appears on the PC screen. In this mode it is possible to send any programming command to the scanner. A complete list of the Programming Mode commands is given in par. 3.3.

To exit Programming Mode and Save the new configuration send the following commands:

exit	the scanner returns to Local Mode = ">"
save -m=stack	the scanner acknowledges the save command = ">"
Ctrl-E	exit Local Mode

Example::

COMMAND	Prompt	DESCRIPTION
Ctrl+E + Ctrl+O + '!'	>	ENTER LOCAL MODE
progmode	#	ENTER PROGRAMMING MODE
10008	#	Restore factory default
15000	#	Set Beeper on
14310	#	(Code128/Ean128 On)
exit	>	EXIT PROG. MODE
save -m=stack	>	SAVE CONFIGURATION
Ctrl+E		EXIT LOCAL MODE

3.3 PROGRAMMING COMMAND STRINGS

INTERFACE SELECTION	
DESCRIPTION	**STRING**
RS232 default	**10010**
Keyboard Wedge default	**10013**

RS232		
DESCRIPTION		**STRING**
RS232 Presets	Wincor Nixdorf Beetle Mode A1	**19010**
	Wincor Nixdorf Beetle Mode A2	**19011**
	Wincor Nixdorf Beetle Mode B1	**19012**
	Wincor Nixdorf Beetle Mode B2	**19013**
	Wincor Nixdorf Beetle Mode B3	**19014**
	ICL Mode	**20000**
	Fortronic (UK) Mode	**20010**
Baud Rate	300	**11000**
	1200	**10017**
	2400	**11002**
	4800	**11003**
	9600	**11004**
	19200	**11005**
Parity	None	**11010**
	Even	**11011**
	Odd	**11012**
Databits	7 databits	**11030**
	8 databits	**11031**
Stopbits	1	**11020**
	2	**11021**
RTS/CTS	RTS/CTS ON	**11053**
	RTS/CTS OFF	**11052**

KEYBOARD WEDGE		
DESCRIPTION		**STRING**
PC/Terminal Type	PC XT	**40000**
	PC AT	**40001**
	PC PS2	**40002**
Select	IBM 347 x terminals	**40003**
	IBM 3179 terminal	**40004**
Keyboard nationality	International Keyboard (ALT Method)	**40020**
	US	**40021**
	UK	**40022**
	French	**40023**
	German	**40024**
	Spanish	**40025**

KEYBOARD WEDGE (continued)		
Caps Lock	OFF	**40050**
Caps Lock	ON	**40051**
Inter Character Delay	0 msec	**13040**
	1 msec	**13041**
	2 msec	**13042**
	5 msec	**13043**
	10 msec	**13044**
	20 msec	**13045**
	50 msec	**13046**
	100 msec	**13047**
	200 msec	**13048**
	500 msec	**13049**

OPERATING PARAMETERS		
DESCRIPTION		**STRING**
Select Scanning Mode	Scanning Mode	**15002**
Freeze Frame Mode	Freeze Frame ON	**15004**
Single Line Mode	Single Line ON	**15005**
Beeper	Beeper ON/OFF	**15000**
	Beeper Tone	**15001**
LED/Beeper Management	After decoding	**15101**
	After transmission	**15102**
Sleep Mode	Off	**13030**
	After 10 min.	**13031**
	After 30 min.	**13032**
	After 60 min.	**13033**
Same Code Delay	50 msec	**13010**
	100 msec	**13011**
	200 msec	**13012**
	300 msec	**13013**
	400 msec	**13014**
	500 msec	**13015**
	600 msec	**13016**
	700 msec	**13017**
	800 msec	**13018**
Code Sample Period	50 msec	**13000**
	100 msec	**13001**
	150 msec	**13002**
	200 msec	**13003**
Buffersize of Scanner	Buffersize of Scanner > 1	**11058**
	Buffersize of Scanner = 1	**11059**

CODE SELECTION		
EAN/UPC	All EAN/UPC (ADD ON not sent)	**14101**
	EAN/UPC with and without ADD ON	**14102**
	All EAN/UPC Off	**14100**
	EAN/UPC + ADD ON only	**14104**
	EAN/UPC + ADD ON only for 379/434/439/529/977, optional for others	**14103**
	EAN/UPC + ADD ON only for 379/434/439/529/977, not sent for others	**14107**
	ADD ON 5 only (ADD ONs must be selected)	**14105**
	ADD ON 2 and 5 only (ADD ONs must be selected)	**14106**
	Price check digit verify Off (EAN 13)	**11076**
	Price check digit verify, 4 digits price field (EAN 13/UPC A)	**11078**
	Price check digit verify, 5 digits price field (EAN 13/UPC A)	**11077**
	ADD ON Format with Separator	**11049**
	ADD ON Format without Separator	**11048**
EAN/UPC Conversions	UPC A without conversion	**11056**
	UPC A to EAN 13 conversion	**11057**
	EAN 8 to UPC A conversion	**11088**
	NSC to UPC A conversion	**11091**
	NSC without conversion	**11090**
	UPC E to UPC A conversion	**11055**
	No UPC E conversion	**11054**
	UPC E format with leading zero	**11043**
	UPC E format without leading zero	**11042**
	Transmit UPC A Check digit: OFF	**11087**
	Transmit UPC A Check digit: ON	**11086**
	Transmit UPC E Check Digit: ON	**11045**
	Transmit UPC E Check Digit: OFF	**11044**
	Transmit EAN 13 Check digit: OFF	**11085**
	Transmit EAN 13 Check digit: ON	**11084**
	Transmit EAN 8 Check digit: OFF	**11082**
	Transmit EAN 8 Check digit: ON	**11083**
CODE 128/ EAN 128	Code 128/EAN 128 ON	**14310**
	Code 128/EAN 128 OFF	**14311**
	Code 128/EAN 128 send FNC1 as]C1	**14312**
	Code 128/EAN 128 do not send FNC1 as]C1	**14313**
CODE 39	ON	**14301**
	Full ASCII ON	**14304**
	Code 32 ON	**14303**
	All Code 39 family OFF	**14305**
	Transmit CHECK character CODE39:OFF	**14600**
	Transmit CHECK character CODE39:ON	**14601**
	Verify CHECK character CODE39: OFF	**14602**
	Verify CHECK character CODE39: ON	**14603**

CODE SELECTION		
CODABAR	CODABAR ON CODABAR OFF	**14302** **14306**
	Transmit start/stop characters in upper case	**14573**
	Transmit start/stop characters in lower case	**14574**
	No start/stop character transmission	**14572**
	No check digit transmission	**14604**
	Transmit check digit	**14605**
	Verify CHECK character CODABAR: OFF	**14606**
	Verify CHECK character CODABAR: ON	**14607**
Interleaved 2/5	Interleaved 2/5 ON	**14202**
	Interleaved 2/5 OFF	**14200**
	Transmit Check character INT 2/5: OFF	**14608**
	Transmit CHECK character INT 2/5: ON	**14609**
	Verify CHECK character INT 2/5: OFF	**14610**
	Verify CHECK character INT 2/5: ON	**14611**

CODE LENGTH		
DESCRIPTION		**STRING**
Set Minimum Length*	Code 128	**14413**
	Code 39	**14414**
	CODABAR	**14415**
	Interleaved 2/5	**14411**
Set Fixed Length*	Code 128, Fixed Length 1	**14431**
	Code 128, Fixed Length 2	**14435**
	Code 39, Fixed Length 1	**14432**
	Code 39, Fixed Length 2	**14436**
	CODABAR, Fixed Length 1	**14433**
	CODABAR, Fixed Length 2	**14437**
	Interleaved 2/5, Fixed Length 1	**14430**
	Interleaved 2/5, Fixed Length 2	**14434**
Length	Length = 1	**13101**
	Length = 2	**13102**
	Length = 3	**13103**
	Length = 4	**13104**
	Length = 5	**13105**
	Length = 6	**13106**
	Length = 7	**13107**
	Length = 8	**13108**
	Length = 9	**13109**
	Length = 10	**13110**
	Length = 11	**13111**
	Length = 12	**13112**
	Length = 13	**13113**
	Length = 14	**13114**
	Length = 15	**13115**
	Length = 16	**13116**

CODE LENGTH (continued)		
Length	Length = 17	**13117**
	Length = 18	**13118**
	Length = 19	**13119**
	Length = 20	**13120**
	Length = 22	**13122**
	Length = 24	**13124**
	Length = 26	**13126**
	Length = 28	**13128**
	Length = 30	**13130**
	Length = 32	**13132**

*** Every single "Set Code Length" string must be followed by a Length value string.**

A ASCII CHARACTERS

'NUL'

'SOH'

'STX'

'ETX'

'EOT'

'ENQ'

'ACK'

'BEL'

'BS'

8 712345 131081

'HT'

8 712345 131098

'LF'

8 712345 131104

'VT'

8 712345 131111

'FF'

8 712345 131128

'CR'

8 712345 131135

'SO'

8 712345 131142

'SI'

8 712345 131159

'DLE'

'DC1'

'DC2'

'DC3'

'DC4'

'NAK'

'SYN'

'ETB'

'CAN'

'EM'

'SUB'

'ESC'

'FS'

8 712345 131289

'GS'

8 712345 131296

'RS'

8 712345 131302

'US'

8 712345 131319

SPACE

8 712345 131326

'!'

8 712345 131333

'"'

8 712345 131340

'#'

8 712345 131357

'$'

8 712345 131364

'%'

8 712345 131371

'&'

8 712345 131388

'''

8 712345 131395

'('

8 712345 131401

')'

8 712345 131418

'*'

8 712345 131425

'+'

8 712345 131432

','

8 712345 131449

'-'

8 712345 131456

'.'

8 712345 131463

'/'

8 712345 131470

'0'

8 712345 131487

'1'

8 712345 131494

'2'

8 712345 131500

'3'

8 712345 131517

'4'

8 712345 131524

'5'

8 712345 131531

'6'

8 712345 131548

'7'

8 712345 131555

'8'

8 712345 131562

'9'

8 712345 131579

':'

8 712345 131586

';'

8 712345 131593

'<'

8 712345 131609

'='

8 712345 131616

'>'

8 712345 131623

'?'

8 712345 131630

'@'

8 712345 131647

'A'

8 712345 131654

'B'

8 712345 131661

'C'

8 712345 131678

'D'

8 712345 131685

'E'

8 712345 131692

'F'

8 712345 131708

'G'

8 712345 131715

'H'

8 712345 131722

'I'

8 712345 131739

'J'

8 712345 131746

'K'

8 712345 131753

'L'

8 712345 131760

'M'

8 712345 131777

'N'

8 712345 131784

'O'

8 712345 131791

'P'

8 712345 131807

'Q'

8 712345 131814

'R'

8 712345 131821

'S'

8 712345 131838

'T'

8 712345 131845

'U'

8 712345 131852

'V'

8 712345 131869

'W'

8 712345 131876

'X'

8 712345 131883

'Y'

8 712345 131890

'Z'

8 712345 131906

'['

8 712345 131913

'\'

8 712345 131920

']'

8 712345 131937

'^'

8 712345 131944

'_'

8 712345 131951

'`'

8 712345 131968

'a'

8 712345 131975

'b'

8 712345 131982

'c'

8 712345 131999

'd'

8 712345 132002

'e'

8 712345 132019

'f'

8 712345 132026

'g'

8 712345 132033

'h'

8 712345 132040

i'

8 712345 132057

'j'

8 712345 132064

'k'

8 712345 132071

'l'

8 712345 132088

'm'

8 712345 132095

'n'

8 712345 132101

'o'

8 712345 132118

'p'

8 712345 132125

'q'

8 712345 132132

'r'

8 712345 132149

's'

8 712345 132156

't'

8 712345 132163

'u'

8 712345 132170

'v'

8 712345 132187

'w'

8 712345 132194

'x'

8 712345 132200

'y'

8 712345 132217

'z'

8 712345 132224

'{'

8 712345 132231

'|'

8 712345 132248

'}'

8 712345 132255

'~'

8 712345 132262

'DEL'

8 712345 132279

B KEYBOARD WEDGE EXTENDED CHARACTERS

F1

F2

F3

F4

F5

8 712345 400644

F6

8 712345 400651

F7

8 712345 400668

F8

8 712345 400675

F9

F10

F11

F12

Tab

Enter (alpha)

Enter (numpad)

Backspace

Delete

Esc

Left Arrow

Right Arrow

Up Arrow

Down Arrow

Page Up

Page Down

Home

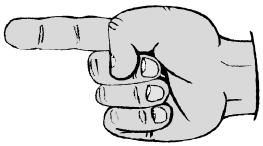
8 712345 400927

End

8 712345 400934

C EDITING COMMANDS

OPEN THIS PAGE TO READ THE DESIRED EDITING COMMANDS



RESTORE DEFAULT

Restore Factory Default

◆ RS232 Default

Keyboard Wedge Default

Programming Mode is exited after scanning any of these codes.

ENTER AND EXIT

Enter/Exit and Save Programming Mode

Exit Programming Mode without Saving

90ACC1620